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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,995	10/15/2001	Vernon T. Brady	017750-732	9493
7590	03/10/2005		EXAMINER	HARVEY, DIONNE
Frederick G. Michaud, Jr. BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, VA 22313-1404			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/975,995	BRADY ET AL.
	Examiner	Art Unit
	Dionne N Harvey	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-104 is/are pending in the application.
- 4a) Of the above claim(s) 3-10,13-18,20-24,27,28,30-35,38,39 and 41-75 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,11,12,19,25,26,29,36,37,40,76-79,81-92,95-99,101,103 and 104 is/are rejected.
- 7) Claim(s) 80,93,94,100 and 105 is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group I, consisting of claims 1-2,19,29 and 40 in the reply filed on 11/29/2004 is acknowledged. The traversal is on the ground(s) that in examining the non-elected claims, the Examiner will search the same classes of art as is required to search the invention of elected claims, and further that the restriction will not reduce the workload of the U.S. Patent and Trademark Office. This is not found persuasive.
2. This application contains claims 3-10, 13-18, 20-24, 27,28, 30-35, 38,39, and 41-75, drawn to an invention nonelected with traverse in reply filed on 11/29/2004 . A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### *Specification*

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**4. Claims 1,2,19,29,40** are rejected under 35 U.S.C. 102(b) as being anticipated by **Caille (US 5,659,322)**.

Regarding claims 1 and 29, shown in **figures 1 and 2**, Caille teaches a transmitting and receiving device for use in telecommunications, thereby reading on “comprising: means for performing at least one of modulating and demodulating information signals”; and in **column 1, lines 43-53**, Caille further teaches that the device is provided with transmit/receive switching such that an antenna operates alternately in transmit and receive mode and furthermore, orthogonal polarizations may be selected in the transmit and receive modes, thereby reading on “means for information transmission/reception, said information transmission/reception means providing for information transmission using a first polarization and for information reception using a second polarization to thereby isolate information transmission from information reception.”

Regarding claim 2, in **figure 1**, Caille teaches a modulating means having a data input means **21**, a data processing means (**in figure 2, see 23,24,27,28**), and a power output means (**in figure 2, see 26-Sij**).

Regarding claim 19, the method of claim 19 is rejected for the same reasons as set forth in the rejection of claims 1 and 29, above.

Regarding claim 40, Caille teaches a transceiver device, thereby inherently teaching both a modulator and a demodulator.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **11,12,25,26,36,37,86,87,89,92,98,99 and 101** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Caille (US 5,659,322)** in view of **Dent (US 5,724,666)**.

Regarding claims 11,25 and 36, Caille teaches that the antenna array of the device may be provided using printed circuit type, annular slots, etc. Caille doesn't clearly teach that the transmission/reception means includes a transmission antenna and a reception antenna separated by a distance from said transmission antenna.

In **column 4, lines 45-55**, and shown in **figure 6**, Dent teaches that an antenna array may include a plurality of receiving antennas, as well as a plurality of transmit antenna.

It would have been obvious for one of ordinary skill in the art at the time of the invention to construct an antenna array, as claimed, for the purpose of providing polarization isolation between transmit and receive antenna elements.

Regarding claims 12,26 and 37, in **column 4, lines 60-63**, Dent also teaches that alternatively, a common patch antenna may be utilized for receiving and transmitting signals, thereby reading on "transmission/reception means further includes: a single antenna having a dual polarization capability for transmitting information with a first polarization, and for receiving information with a second polarization."

Regarding claims 86 and 87, in **figure 3**, Caille teaches a receiving element, thereby teaching a demodulating means having a data input means and a data processing means.

Regarding claim 89, in **column 5, lines 32-34** and illustrated in **figure 7**, Dent teaches a hermetically sealed housing **234** for containing components of a transceiver, components of said modulating means and said demodulating means being mounted directly to said hermetically sealed housings.

Regarding claim 92, **figure 3** of Caille teaches a transmit element, thereby teaching modulation information transmission as a modulated signal; and splitting a signal **5a** from said data processing means into said plural, parallel amplification channels **S1,S3**.

Regarding claim 98, **figure 3** of Caille teaches a transmit element including: plural, parallel amplification channels **S1,S3,S2,S4**.

Regarding claim 99, **figure 3** of Caille teaches at least one coupler **5a**, for splitting a signal from said data processing means into said plural, parallel amplification channels **S1,S3**.

Regarding claim 101, Caille teaches at least one device **5b** for combining outputs of each of said plural, parallel amplification channels into a single output channel.

6. Claims **76-79,81-85,88,90,91,95-97,103** and **104** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Caille (US 5,659,322)** in view of **Dent (US 5,724,666)**, as applied to claims 11,25 and 36 above, and further in view of **Iwatsuki (US 5,915,213)**.

Regarding claims 76,77,90,91 and 97, Caille does not clearly teach that said data input means is configured to receive data modulated on an intermediate frequency of 2-3 GHz, and includes a local oscillator for modulating said data with a frequency on the order of 18 GHz.

**In figure 2**, Iwatsuki teaches a transmitter apparatus wherein data is modulated on an intermediate frequency **10** and includes a local oscillator for modulating said data **30**. Iwatsuki does not clearly teach an intermediate frequency of 2-3 GHz or that the local oscillator modulates said data on the order of 18 GHz. However, the Examiner takes Official Notice that it would be obvious for one of ordinary skill in the art at the time of the invention to receive data modulated on an intermediate frequency of 2-3 GHz and include a local oscillator for modulating said data on the order of 18 GHz, for the purpose of generating a radio transmission signal.

Regarding claim 78, **figure 3** of Caille teaches that said power output means **26-Sij**, further includes: plural, parallel amplification channels **S1,S3,S2,S4**.

Regarding claim 79, **figure 3** of Caille teaches that said power output means further includes: at least one coupler **5a**, for splitting a signal from said data processing means into said plural, parallel amplification channels **S1,S3**.

Regarding claim 81, **figure 3** teaches that said power output means further includes: at least one device **5b**, for combining outputs from each of said plural, parallel amplification channels into a single output channel.

Regarding claim 82, in **column 7, lines 43-45**, Caille teaches at least one coupler is a 90 degree hybrid.

Regarding claim 83, **figure 3** teaches that said power output means further includes: at least one device **5b**, for combining outputs from each of said plural, parallel amplification channels into a single output channel.

Regarding claims 84,95 and 103, in **column 6, lines 1-5**, Iwatsuki teaches a regulator means having at least one voltage regulator for providing a regulated DC output voltage to said performing means.

Regarding claims 85,96 and 104, Iwatsuki appears to teach that said DC voltage regulator further includes: at least two DC voltage outputs', and means for inhibiting a first of said two DC voltage outputs when a second of said two DC voltage outputs is above a predetermined threshold.

Regarding claim 88, in **figure 2**, Iwatsuki teaches a local oscillator for supplying a modulating signal **30** to said modulating means; while the combined disclosure of

Caille and Iwatsuki teaches providing a demodulating signal to said demodulating means, as is well understood as existing in receiving elements in transceiver devices.

***Allowable Subject Matter***

7. Claims 80,93,100 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 94 and 102 are objected to based upon their dependency upon base claims 93 and 100.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N Harvey whose telephone number is 703-305-1111. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

-Dionne Harvey



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